CLAIMS:

What is claimed is:

1. (Currently amended) A semiconductor device, comprising:

a silicon (111) single crystal substrate;

a[[n]] single crystal epitaxial boron phosphide (BP) comprising layer disposed directly on said substrate, and

a group III-nitride semiconductor epitaxial layer disposed directly on said BP layer.

2. (Canceled)

3. (Original) The device of claim 1, wherein said group III-nitride layer comprises GaN.

4. (Original) The device of claim 3, wherein said GaN layer is single crystal.

5. (Original) The device of claim 1, wherein said buffer layer has a thickness in the range of 0.1 –1.0 μm.

6. (Currently amended) A light-emitting diode (LED), comprising:

a silicon (111) single crystal substrate;

a[[n]] single crystal epitaxial boron phosphide (BP) comprising layer disposed directly on said substrate;

a group III-nitride semiconductor epitaxial layer on said BP layer, and

an active layer comprising $In_xGa_{1-x}N$ disposed directly on said group III-nitride layer.

7. (Original) The LED of claim 6, wherein said BP layer is a single crystal.

8. (Original) The LED of claim 6, wherein said group III-nitride layer comprises GaN.

9. (Original) The LED of claim 6, wherein one terminal of said LED is contacted through said silicon substrate.

10. (Original) The LED of claim 6, further comprising a first and second cladding layer sandwiching said active layer.

11. (Original) The LED of claim 6, wherein said active layer comprises $In_xGa_{1-x}N$, wherein $0 \leq X \leq 1$.

12. (Currently amended) A method for forming group III-nitride articles, comprising the steps of:

providing a single crystal (111) silicon substrate,

depositing a[[n]] single crystal epitaxial boron phosphide (BP) comprising layer disposed directly on said substrate, and

depositing an epitaxial group III-nitride semiconductor epitaxial layer disposed directly on said BP layer.

13. (Original) The method of claim 12, wherein said BP layer is a single crystal.

14. (Original) The method of claim 12, wherein said group III-nitride layer comprises single crystal GaN.

15. (Original) The method of claim 12, further comprising the step of *in-situ* removal of native oxide on a surface of said Si substrate in a reactor used for depositing said BP prior to depositing said BP.

16. (Original) The method of claim 15, wherein said *in-situ* removal comprises hydrogen reduction.